Dr. D'Anne Rudden: When I was a little girl, I loved to mix cereals. A little Captain Crunch, some Buckwheats, and a dash of Lucky Charms create a veritable cornucopia of taste-tempting delights...
Well, at least to my 8-year-old sensibilities and palate complexity. Some things just go better together, right?

As I matured, my love of blending turned to creating awesome mix tapes for all occasions. You know, just the right combination of songs to express my love, my intention, and my stories.

As I have gotten older, I still love blending. Art with science. Home with work. Passion with purpose. The result can be a tantalizing combination of skills, challenges, and rewards. On the other hand, it can be a complete horror story. A trainwreck on fire. Any time you blend things together, there is any number of risks and rewards that might be pushed to the surface. To non-blenders out there, blending may seem like lots of “happy accidents.” But I would argue that it is a commitment to purposeful practice and willingness to risk failure that allows space for magic to unfold.

On the podcast this month, we are blending areas of audiology that on the surface look like total opposites and yet, make complete sense when fused together with Dr. Kelley Linton.

Dr. Linton is the owner of both Center for Hearing and Balance and the Center for Industrial Audiometric in Fort Smith, Arkansas. She is a Professional Supervisor and Course Director with certifications from CAOHC – the Council for Accreditation in Occupational Hearing Conservation. She is an Adjunct Professor for the University of Arkansas and in case that wasn’t enough, Dr. Linton is a Lieutenant Colonel in the U.S. Army Public Health Command.

Dr. Linton, welcome to The Hearing Journal Podcast! You sure do wear a lot of professional hats. Excited to shine a little light on all that you do out in the world.

Dr. Kelley Linton: Thank you so much for having me. It’s always pretty cool when people want to hear what you do and know your story. I'm glad to be here.

Dr. D'Anne Rudden: I'm excited to learn a little more about your story. Can you start by telling us about your journey, and how did you get interested in audiology?

Dr. Kelley Linton: Well, that's always an interesting story with everybody I know. I had a full scholarship in music when I graduated high school. I was a piano major on my way to being a concert pianist. I had a full ride in college, but honestly, that's not what I wanted to do. I had played for so many years.

I love math. Math was my minor. Audiology is a pretty-cool mix of music with audio and Math. It wasn't a clear cut. I started in pre-med and some medical things, then drifted around until I settled at home with audiology, and the math side of it. So, that's how I ended up here.

Dr. Kelley Linton: I think, we don't get enough credit as audiologists for being like geeky nerds, but amongst ourselves, yes, but not out in the public forum.

Dr. D'Anne Rudden: I think the biggest challenge is being patient enough to do the work and have it pay off. How did you get in touch with this field?

Dr. Kelley Linton: I think it's pretty much a perfect fit. I still love blending. Art with science. Home with work. Passion with purpose. The result can be a tantalizing combination of skills, challenges, and rewards. On the other hand, it can be a complete horror story. A trainwreck on fire. Any time you blend things together, there is any number of risks and rewards that might be pushed to the surface. To non-blenders out there, blending may seem like lots of “happy accidents.” But I would argue that it is a commitment to purposeful practice and willingness to risk failure that allows space for magic to unfold.

04:30 Dr. D'Anne Rudden: I think, we don't get enough credit as audiologists for being like geeky nerds, but amongst ourselves, yes, but not out in the public forum.

04:41 Dr. Kelley Linton: Oh, yes. I really imagined that I was going to be in a lab most of my life pushing buttons and working formulas. I'm an introvert, so this is not where I saw myself at all, but it has been an awesome ride. I
love it.

04:57 Dr. D'Anne Rudden: It’s so funny because when I was getting ready to talk to you, I started looking at all the things you do. The thing that just kept popping up in my mind over and over again was that you have blended together an incredibly vast knowledge array. You have put in all the work for your private practice, for Hearing Conservation, and for the army public health. That’s a lot of different arenas all coming together at once. Is that something that you planned, or was that kind of like a happy accident?

05:37 Dr. Kelley Linton: Definitely a happy accident. We don’t even have enough time to talk about how I ended up in the army but to be brief, I never intended to join the army. I never watched military movies, I didn’t know a thing about it, which is how I ended up in the army. I love Hearing Conservation, I love Math and formulas, and it’s always been, my favorite class.

I owned a private practice for several years. Back in the day, it was difficult to get health insurance. I had three babies and no health coverage. I had a C-section and the child had surgeries, all without health insurance. That is why I was always bargaining to get our health care. So, the army got me at the right time. I got this letter in the mail that said, "Do you want to be a consultant with the military for two weeks a year?" I did not know that it means you’re signing up to be in the reserves. The only line in that letter I saw was that you get health insurance and retirement. Two weeks a year is not big deal, right? Well, all of us in the army know, it’s never just two weeks a year. That’s a joke.

So, I signed up, and everybody’s like jaw-dropping amazement, including my parents. They’re said, "What are you doing? You’re not thinking straight." I joined the Army and off to basic training, I went. I tell everybody that it was a God thing because I would never have walked into a recruiting office and signed up. I just flung into it, and it’s been wonderful. I would have probably gone active duty full-time if I hadn’t owned a private practice. I still love it. I’ve been in my 19th year and it’s fabulous. In fact, I recruit for them at the universities. I do talks to the audiology students about it.

07:47 Dr. D’Anne Rudden: If I would have read that letter, I would have thought what am I signing up for two weeks a year? What’s the big deal? I wouldn’t have gotten it. But, thank God, you did, because we need people like you to protect our military soldiers. Someone has to be the caretaker of the military service, and I’m glad that there are people like you doing that.

08:23 Dr. Kelley Linton: Thank you. Ear injuries are the number one war wound that we see, whether it’s tinnitus or TM perps from blasts, or of course, hearing loss. Ear injury is number one. We are definitely a valued area in the military.

08:45 Dr. D’Anne Rudden: That’s great to hear. Not only do you do that, but you have also been a contract audiologist for NASA, down at the Kennedy Space Center in Florida for about four years. How did you get that job? What kind of things do you do for NASA? You just don’t happen to be the audiologist next door because you live in Arkansas, how did that even happen?

09:15 Dr. Kelley Linton: I wondered that myself, too. I received the information through an email from Kennedy Space Center asking if I was interested in doing some contract work. Honestly, I thought it was a joke. Who are these people? I went through rigorous phone calls, meetings, and interviews, then it went on for months, and I thought, oh my gosh! Is this for real? They really need me, and we have military audiologists that work at NASA. I know because a lot of times when they retire from the military, they’ll go and work for NASA.
I know they have good audiologists, but what is it that NASA requires? If they have an STS or someone with a change in hearing, they get an outside professional opinion to concur with what their people have said. The way they do it is they look through certified professional supervisors or CAOHC, like me. They picked my name from there because of my military background. They knew I was in the military, a professional supervisor, and a private practice, which is one of their requirements.

What they do is when they have someone that has a change in hearing, they send me all their medical reports, exams, and all the noise survey. What’s nice about it is that they check all the boxes because it’s NASA. They gather all the data. They do the noise survey and the fit testing at the hearing protection before sending it to me. I review it and I write up a report. Most of the employees that I’ve been working with for the last several years are working on the Artemis rocket, which just went. It was so exciting and it was pretty cool. The coolest thing is that back in February, my husband and I got to see the rocket up close and personal. We had a tour and became a part of a contracting medical provider.

11:44 Dr. D’Anne Rudden: You could say, "I verify this rocket is going to be really loud."

11:49 Dr. Kelley Linton: Yes, I did. In fact, they have a great industrial hygienist. It’s like the dream job for a hearing conservationist because they’ve got it all together. We could talk the lingo, and he could show me what they’ve done the noise measurements, and the hearing protection. It was great.

12:09 Dr. D’Anne Rudden: I wish everyone could see your face when you started talking about that because you almost had a little swagger going on.

12:25 Dr. Kelley Linton: Yes.

12:25 Dr. D’Anne Rudden: Your passion really comes out, but I’m going to circle back to the military stuff because that’s something I have absolutely no experience with.

One of the things I want you to clarify is you don’t work with the VA or Veterans Affairs in any way. That’s completely separate from what an active-duty military audiologists do. What do an active-duty military audiologist and a Lieutenant Colonel in the army actually do?

13:05 Dr. Kelley Linton: The audiology department is responsible for the hearing conservation of the soldiers. Everybody that wears a uniform is considered noise-hazardous-exposed, so they have to be in a hearing conservation program. No if or buts. Even if they’re administrative, they have to go to the range and qualify once a year in a hearing conservation program, which means every soldier gets an entry to a hearing test, and to an annual hearing test, as well.

The same thing to OSHA standards, we look for shifts in hearing. The military’s a little stricter on what their PEL is or their permissible exposure level. They have it at 85 dBA, while OSHA is at 90 dBA. They’re making sure that the soldiers are protected.

There are not enough audiologists to test the millions of military personnel that we have. That is why, we train medics, and other soldiers to do the hearing screening. As an instructor and a course director, my biggest responsibility for 19 years, is to go and certify other military personnel to be able to conduct the screening. Just like everyone else, they have to be recertified every five years.

This month, I’m going to Oklahoma City to certify about 12 or 13 medics that will go to New Mexico in December. I
will teach a course and will certify about eight or nine, and this just goes on continually all year.

Another part of my unit is responsible for looking at weapons and their actual noise exposure such as what the person does when they're firing certain weapons. We have restrictions on some weapons. They can only fire it so many times within 24 hours. Some weapons can only have X number of soldiers because of the noise hazard. We've got some really loud things in the military, that is why we're looking out for the soldiers hearing.

15:19 Dr. D'Anne Rudden: Is that just during times when they're not deployed or even when they are deployed?

15:26 Dr. Kelley Linton: It's both. It's when they're deployed and when they're not deployed. We did have an audiologist in the theater for some of the Iraqi conflict called Operation Enduring Freedom. Typically, we're not on the war front. Most of our work is done at the back. One time, I was activated as a backfill for a year in 2007. They sent the audiologists over and then I was a backfill, and I covered stateside while that person was gone.

16:03 Dr. D'Anne Rudden: In the middle of trying to run your private practice, you got caught up for a year, how does that play out?

16:18 Dr. Kelley Linton: Audiology is a small group in the army, which is nice because they are mindful of that. My commander called and said, "Look, I got a couple of places I could send you. We are needing some help. We've got a lot of soldiers going over who had a lot of hearing stuff going on." She gave me a couple of options. Mississippi or Corpus Christi, Texas, and both of those places I could get home in a reasonable amount of time.

So, I ended up and do my job in Corpus Christi, then I would come home typically on Friday or Saturday to do some work at the clinic. I had a fantastic team back home which kept the clinic going. I did a lot of travel that year, but I was home probably every week.

17:13 Dr. D'Anne Rudden: Wow. I cannot believe how fast the first segment has gone. I haven't even asked you half of the things that I want to ask.

Don't go away. We're going to have everyone come back to the podcast Aftershow, and dive in a little deeper with Dr. Kelley Linton. Thank you so very much for your time and for your service.

17:37 Dr. Kelley Linton: Thank you.

AFTERSHOW

00:44 Dr. D'Anne Rudden: We are back on The Hearing Journal Podcast Aftershow with Dr. Kelley Linton, blending all kinds of audiological aspects into one person's job. She is a private practice owner, an active-duty military audiologist for 19 years, and a Lieutenant Colonel. She's worked for NASA, and one of the things that she also has done is established a very successful mobile audiology business. That's a buzzword in audiology.

Mobile clinics, and mobile services are some of the things that people promote. The people are stepping out to creating this whole new genre of practice. Talk about how you started doing mobile work, and what do you see are the big challenges versus big opportunities?

01:49 Dr. Kelley Linton: We started with mobile because there was a need. I've always considered myself an industrial audiologist working with companies like OSHA standards and STS. I like to do noise measurements, I like
to go out to do noise mapping with companies, I like doing symmetry, and writing reports. They would always say, "Can you come and do on-site testing? We have 300 employees." The smaller companies would say to just come to the clinic. That is where it started bogging my clinic down.

I have other audiologists who are regular clinic audiologists, but they are doing industrial stuff on us as well. We ended up purchasing a mobile unit, and we use automated audiometers. It's a different world in audiology

I teach at the university, and I tell my students that you’re going to put on a whole different hat when it comes to industrial audiology. We get in there and get it done. It's not the best position for an audiologist, but, it’s not necessarily doing an otoscopy on anybody, only collecting data. We also have technicians that do the testing.

It’s an automated system, and we run two booths at a time. It’s a pretty small mobile unit, but it is set up for industrial testing. We roll up on-site, knock out the employees, and send the reports then they bring the data back to me, and I will review the problem audiograms and then write up a report for that company.

03:34 Dr. D'Anne Rudden: That was built out of need. That's what I've heard from the people I've seen that have been most successful with mobile clinics. It was born out to serve someone else's needs, as opposed to starting from scratch as a mobile unit. That's a whole other animal. Would you agree?

03:58 Dr. Kelley Linton: Yes. We did the same thing when we opened the practice. We can decide for ourselves, by knowing our boundaries. We can't be everything to everybody.

What we have decided on the industrial companies, is that we want to be the unit that pulls up small companies. There are big businesses that do industrial testing, and they are very expensive and very busy. Some of these small local companies only have 15 or 20 employees with its several 1000s of dollars can’t afford to have big companies come. We've heard that it's around 10 to $20,000 a year for a hearing conservation program, and they can't afford that.

We're a small unit, and we only want small accounts. We also do cleanups. If you have a big company, and your factory runs three to 400 employees, if there's someone who is sick or on vacation or didn't get their hearing testing done, then that's where we promote ourselves as the ones that will come and do cleanups. It is really nice because you don't have to evaluate all those employees. You can do the ones that are missed, then you send your data over to the big company that has the contract. All year long or every year, that's what we do. I don't like to do a company much bigger than about 300 employees. We try to keep it under that, if possible. If bigger than that, we just have one of the big companies come in, then we'll just do the cleanup afterward.

05:38 Dr. D'Anne Rudden: That's kind of a sweet spot that you're in.

05:44 Dr. Kelley Linton: Exactly. We looked at the people that were needing us and wanting us to come in. A lot of it was the small companies, but sometimes they don't call you until OSHA has visited them during a hearing conservation program. Sometimes, if they don't have any noise measurements, then they call you to come to test their hearing.

As audiologists, we know everything that needs to be done, and we want it all done very precisely. It's not that way in the industrial audiology world because sometimes you go and have to be okay knowing it is not the right way, and that's why we come out to do noise measurements, first. If you don't have noise-hazardous exposed employees, then I don't need to come and test. It's totally a different world.
06:38 Dr. D'Anne Rudden: Part of it is educating the companies, as well. I would imagine that we want to do all the things at once, but sometimes we have to chum the waters a little bit to make sure that...

06:56 Dr. Kelley Linton: We do. Whenever I have some STS, the patient comes back, I put it on OSHA 300 log because it is a work-related injury, then they start saying, “Well, how can I not do that?” and I'm like, “Well, how about we measure your noise, and see if you're even noise-hazardous exposed?” Did we have that conversation a few years ago?

07:17 Dr. D'Anne Rudden: They say, "I don't remember hearing that at all."

07:20 Dr. Kelley Linton: Yes. We'll open two companies this coming next week. They're both pretty big companies, and we should have done this a long time ago.

07:32 Dr. D'Anne Rudden: At the end of the day, it's just like a regular thing where most of the time, there's nothing sinister behind it.

07:52 Dr. Kelley Linton: You're typically working with safety directors and industrial hygienists, and they have a lot on their plate. Hearing is not their only focus. I always joke with them and say, "You know, hearing is the only thing that I care that you care about." I've got a lot of other stuff to care about, I've got mold and air quality.

08:07 Dr. D'Anne Rudden: I want you to talk to an audiologist because I imagine somebody, maybe some students that are in a hearing conservation classes or remembering back their hearing conservation program when they were in school. They might be thinking to themselves that they would really love to get a little more involved or re-learn some of the things because it sounds like it's right up their alley. What would you tell them is the best place to start?

08:50 Dr. Kelley Linton: Absolutely. The first thing you want to do is be a member of the NHCA, National Hearing Conservation Association. That's our audiologists researching and evaluating OSHA changes in standards. They have a great conference once a year, with great resources. They are not expensive, that is why I encourage everybody to join National Hearing Conservation Association.

The other thing I would do is be CAOHC certified. CAOHC is the body of people that educate us in the hearing conservation world. They certify technicians that do the testing, and they certify professional supervisors which OSHA says is the only professional supervisor that can be a physician or an audiologist. So, let's own that area that we've already got. Go through the course, maybe a day and a half at the most. It is intensive hearing conservation. Once you become a certified professional supervisor, you can be a course director. It is not a big requirement if you want to teach the courses. But, being part of CAOHC is also beneficial.

Some audiologists don't think much about the American Industrial Hygiene Association. They probably put out one of the best books that I love. As you can see, all my little tabs are here on the side, it's called the noise manual. I get it every time they update the manual. It's on the sixth edition now, and it's so awesome. Reading a book that's written about what you do by somebody who's not you. It's in simple wording as it can be, so easily understood. In fact, the CAOHC book is also the same way. I use that as my textbook with my hearing conservation students because I tell them that their eyes are big with pediatrics and vestibular. I have to come in and teach industrial hearing. Put this book on your shelf, and you're going to think it's remedial, but one of these days, you're going to get a phone call, and you're going to need to answer some hearing conservation questions. You're going to pull this remedial book down and say, "Thank goodness!" You can look it up because it's written well. The CAOHC book and the noise manual from the Industrial Hygiene Association are just my Bibles.
Dr. D'Anne Rudden: I interviewed Deanna Meinke, a couple of years ago for a podcast episode, and she's right up the road here in Colorado. I had a chance to sit down with her, and she inspired me so much that I went and took the professional supervisor course. The test was literally the hardest I've taken in a long time. That was no joke at all because that is where I was using parts of my brain that I didn't touch in a long time.

The course was so beneficial because I was reminded and taught about some aspects that I might not use every day. If we were in the business of preserving and conserving people's hearing, and we owned that space, then I would love to see more audiologists have that frame of reference around what they do, as opposed to just waiting until there's a problem.

Dr. Kelley Linton: Absolutely. That is my preaching, right there. We are hearing preservation. We're not fixing it when it's broken. We should be promoting and teaching it. There are a lot of great resources out there.

I would caution any audiologist whose interested in hearing conservation or attempting to answer questions or evaluate a worker's compensation. Do yourself a favor and do the professional supervisor course because you would be surprised at some of the things that we have forgotten from our hearing conservation course when we were in school. Unfortunately, I do see some interesting things that come from audiologists that we don't remember exactly what we're looking at here, or what we're supposed to be doing. So, the professional supervisory course is very beneficial.

Dr. D'Anne Rudden: I have my CAOHC book on my shelf, but I don't have the noise manual, though. So, I'm going to put that one on my shelf because it is surprising to me how that pops up such as the things that fall on your lap. You've got that expertise, and you feel confident in it.

I'm going to switch gears because I know that you are not only an amazing audiologist, but you also have a heart for giving back, and that's really important to you.

You participate in some volunteer work. Talk a little bit about how that informs all the other audiology aspects that you do on a daily basis.

Dr. Kelley Linton: Sure, I would love to. I feel the profession that we have is a gift. My knowledge of audiology and my ability to do what I do is a gift. Giving back is definitely a big part of who I am and my belief.

I started about 16 years ago by going to an orphanage in Honduras. They have about 500 children, and I take care of their ears each year. It's a medical mission highly focused on dental, primarily, and some construction which I tagged along with because it feeds my soul by doing some good things, which was great.

We've missed a few years with the army because of COVID. Then, my husband and I recently went to Peru and did a mission trip there. I'm also looking forward to doing Entheos Hearing The Call missions in the future.

Dr. D'Anne Rudden: That aspect for me never gets old, in fact, every time I have the opportunity to participate in something like that, I come back more energized for what I do on a day-to-day that I just can't wait to do it.

Dr. Kelley Linton: It's amazing what you get back from it, really.

Dr. D'Anne Rudden: I want to put you on the spot because we are nearing at the end of our segment. At the
beginning of the intro, as I alluded that you wore so many hats, and we learned some cool things that you're a very accomplished pianist. Is there anything else we don't know about, Kelly Linton?

16:16 Dr. Kelley Linton: You know, I'm an introvert, and most people don't think that I am. I'm fueled by having a book, a blanket, and a fire. That's where I refuel myself. I am a go-getter on the outside, I guess, but I'm secretly an introvert. I am a wanna-be a runner—that's my other passion. I'm not good at it at all because I'm a very slow runner. I run a minute and walk a minute. We do marathons all over and half marathons. I'm all about the trip and the fun.

16:53 Dr. D'Anne Rudden: Well, that is something I did not know about you. Fortunately, you're not going to have to deal with me being a running partner, because that's not going to happen. There are tons of really cool runners that are also audiologists, so maybe this podcast might feel like something you guys could do together.

17:15 Dr. Kelley Linton: Yes, some of us do get together. I'm a slow runner, though. I tell them all the time that I'm just out here for fun.

17:23 Dr. D'Anne Rudden: And, I'm here for the participation medal.

17:26 Dr. Kelley Linton: That's right.

17:29 Dr. D'Anne Rudden: Dr. Kelly Linton, you are an inspiration. I really appreciate that you took the time out of your extremely busy schedule to share areas of audiology that I don't think we get an opportunity to hear about enough or get exposed to. I hope you've inspired a new generation of people that have the same kind of passion that you do.

17:55 Dr. Kelley Linton: Oh, I hope so. I am always available to answer questions, just shoot me an email. I answer a lot of hearing conservation questions, all the time. I'm happy to help.

18:08 Dr. D'Anne Rudden: Awesome! Thank you so much for being on our podcast, and we'll look forward to keeping our eye on what next thing you have blending together.

18:18 Dr. Kelley Linton: Thank you so much for having me. I loved it.

18:20 END